UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
EASTERN DISTRICT OFFICE
25089 CENTER RIDGE ROAD
WESTLAKE, OHIO 44145

October 12, 1982

Phillip L. Willman
Assistant Attorney General
Office of Illinois Attorney General
Room 2315
188 West Randolf Street
Chicago, IL 60602

Dear Mr. Willman:

In response to your request at our September 28, 1982, meeting regarding the draft NPDES permit for the U.S. Steel - Gary Works, please find enclosed the following report:

Cost Effectiveness Analysis of the Iron and Steel Industry Effluent Guideline Regulation (December, 1981)

The cost effectiveness analysis was completed to assist in the evaluation of water pollution control systems considered for the steel industry. Please be advised that this analysis was not the primary decision-making tool for developing the effluent guidelines; however, it demonstrates that the selected model treatment systems are generally cost effective. The data presented in Table 1 (attached to this letter) were obtained from Exhibit 4 of the report. These data show that filtration of properly treated steel finishing wastewaters is not cost effective for controlling toxic pollutants; and, that high rate recycle and filtration is not cost effective for controlling toxic pollutants from hot forming operations.

Table 2 is a summary of actual long term average gross discharges of total suspended solids and oil for U.S. Steel Outfalls 028, 030, and 034 and computed long term average net discharges. Unfortunately, based upon the current NPDES permit, U.S. Steel does not monitor the Lake Michigan Intake and the outfalls simultaneously. Thus, it is not possible to compute actual daily net discharges. Nevertheless, the data presented in Table 2 demonstrate that more than half of the gross discharge may be due to the intake waters.

If you have any questions about the enclosed materials, or if you require additional information, feel free to call at your convenience. A copy of this letter including Attachment A, has also been provided to Mr. Rothenberg of the Metropolitan Sanitary District.

Sincerely yours,

for Gary A. Amendola
Senior Iron and Steel Specialist

Enclosures

cc: Phillip Rothenberg, MSD
Barbara Magel, Region V, 5C
Kenneth Fenner, Region V, 5HR
Irv Dzikowski, Region V, 5WQP
James McDermott, Region V, 5WQC

TABLE 1

Cost Effectiveness of Steel Industry
Wastewater Treatment Technologies

($/lb Removed)

	Selected BPT/BAT Technology	Alternate BAT Technology
A. Finishing Operations (U.S. Steel Outfall 034)		
	Lime Precipitation, Sedimentation	Lime Precipitation, Sedimentation, Filtration
Cold Rolling	63.07	536.91
Acid Pickling		
Sulfuric	20.19	894.37
Hydrochloric	9.02	669.35
Hot Coatings		
w/Scrubbers	46.91	*
wo/Scrubbers	18.97	*
B. Hot Forming Operations (U.S. Steel Outfalls 028,030)		
Primary	0 **	639.04
Section	0.96	562.31
Strip and Sheet	1.58	481.07
Plate	0.35	751.54
Pipe and Tube	3.96	1195.31

* Filters not evaluated separately.

** Zero cost results from scale recovery credits.

TABLE 2

U.S. Steel - Gary Works
Outfalls 028, 030, 034

Long Term Average Discharges

TERMINAL LAGOONS	(mg/l) Gross	Net	(lbs/day) Gross	Net
Outfall 028				
Suspended Solids	12.2	5.4	2780	1230
Oil	4.2	1.8	945	405
Outfall 030				
Suspended Solids	11.6	4.8	5110	2114
Oil	3.9	1.5	1700	654
Total Outfalls 028, 030				
Suspended Solids	----	---	7890	3344
Oil	----	---	2645	1059
TERMINAL TREATMENT PLANT				
Outfall 034				
Suspended Solids	12.5	5.7	2120	967
Oil	3.9	1.5	868	334

Note: Net outfall concentrations and mass discharges computed with Lake Michigan concentrations of 6.8 mg/l for suspended solids and 2.4 mg/l for oil (data obtained by U.S. Steel during 1978 and 1979).